

Remarks

In the Office Action dated January 3, 2003, claims 1-38 were subject to a restriction requirement under 35 U.S.C. § 121. Specifically, the Examiner required restriction between apparatus claims 1-26 (Group I) and method claims 27-38 (Group II). In response thereto, Applicant does not traverse this restriction and has cancelled method claims 27-38 from the Application without prejudice. The Office Action further states that if the apparatus claims (Group I) are elected, additional restriction is required because the Application contains claims directed to two patentably distinct species as illustrated by Figs. 1 and 2. Applicant traverses this aspect of the restriction requirement. Subject to the traverse, Applicant provisionally elects apparatus claims 1-12. This election confirms what was previously discussed between Applicant's attorney and the Examiner via telephone on January 22, 2003.

Page 6 of the specification has been amended to correct a reference numeral for the substrate. A marked-up version showing changes is attached hereto and is entitled Version with Markings Showing Changes Made.

Fig. 1 illustrates a MEMS structure according to one embodiment of the invention. Fig. 2 illustrates a variable MEMS capacitor according to another embodiment of the invention. The MEMS capacitor is similar to the MEMS structure shown in Fig. 1 but further comprises a bottom electrode (115) on the substrate (15) and underneath the patterned passivation layer (20). Independent claims 1 and 13 are, however, generic to the embodiments shown in Figs. 1 and 2. None of these claims recite the feature of the bottom electrode. Claim 15 does recite the bottom electrode

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feature of the MEMS capacitor, however, it is written in dependent form as is allowable under 37 C.F.R. § 1.141.

In light of the arguments made above, Applicant respectfully requests that the Examiner consider all the apparatus claims contained in the above-identified Application. If the Examiner has any questions concerning the traversal of the restriction requirement, please contact the undersigned attorney at (949) 737-2926.

Respectfully submitted,

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VERSION WITH MARKINGS SHOWING CHANGES MADE

In the Specification

Please delete the first paragraph on page 6 of the specification and insert the following replacement paragraph:

Referring to Figure 2, a variable MEMS capacitor according to an embodiment of the invention is shown. The MEMS capacitor is similar to the MEMS structure in Figure 1, but further comprises a bottom electrode 115 on the substrate 2015 and underneath the patterned passivation layer 20. The MEMS capacitor also comprises contact electrodes 120 on the substrate 20 and underneath at least one of the anchors 30. The electrodes 115, 120 may be made of metal, High Temperature Superconductor (HTS) material or other conductive material. In this embodiment, the suspended beam 25 acts as a top electrode of the MEMS capacitor. The gap and dielectric material (i.e., passivation layer 20) between the beam 25 and the underlying bottom electrode 115 determines the capacitance of the MEMS capacitor. The capacitance of the MEMS capacitor is varied by varying a bias voltage applied to the capacitor. The applied bias voltage establishes an electrostatic force on the beam 25 that bends the beam 25 relative to the bottom electrode 115, thereby varying the gap between the beam 25 and the bottom electrode 115. This in turn varies the capacitance of the MEMS capacitor. The passivation layer 20 overlying the bottom electrode 115 is patterned into a plurality of spaced protuberances 40 to alleviate stiction, e.g., "in use" stiction associated with electrostatic pull down of the beam 25.

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In the Claims

Please cancel claims 27-38 without prejudice.